

***** STN Columbus *****

FILE 'HOME' ENTERED AT 14:16:05 ON 23 MAR 2010

=> file reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.22

0.22

FILE 'REGISTRY' ENTERED AT 14:16:19 ON 23 MAR 2010

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 21 MAR 2010 HIGHEST RN 1212811-60-3

DICTIONARY FILE UPDATES: 21 MAR 2010 HIGHEST RN 1212811-60-3

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 8, 2010.

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stdnoc/properties.html>

=>

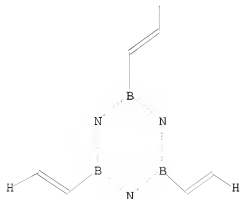
Uploading C:\Program Files\Stnexp\Queries\10544211-parent.str

L1 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS

L1 STR



Structure attributes must be viewed using STN Express query preparation.

```
=> s l1
SAMPLE SEARCH INITIATED 14:16:57 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 10 TO ITERATE

100.0% PROCESSED 10 ITERATIONS 2 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
                      BATCH **COMPLETE**
PROJECTED ITERATIONS: 11 TO 389
PROJECTED ANSWERS: 2 TO 124

L2 2 SEA SSS SAM L1

=> s l1 full
FULL SEARCH INITIATED 14:17:01 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 158 TO ITERATE

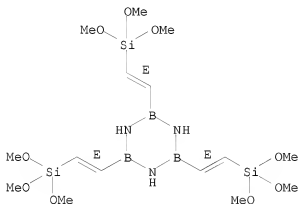
100.0% PROCESSED 158 ITERATIONS 41 ANSWERS
SEARCH TIME: 00.00.01

L3 41 SEA SSS FUL L1

=> d l3 scan

L3 41 ANSWERS REGISTRY COPYRIGHT 2010 ACS on STN
IN Borazine, 2,4,6-tris[(1E)-2-(trimethoxysilyl)ethenyl]-
MF C15 H36 B3 N3 O9 Si3

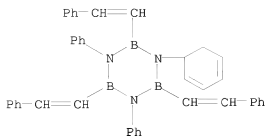
Double bond geometry as shown.
```



```
**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**
```

```
HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):15
```

```
L3 41 ANSWERS REGISTRY COPYRIGHT 2010 ACS on STN
IN Borazine, 1-(2,4-cyclohexadien-1-yl)-3,5-diphenyl-2,4,6-tris(2-
phenylethenyl)-
MF C42 H38 B3 N3
```

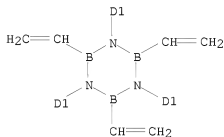


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L3 41 ANSWERS REGISTRY COPYRIGHT 2010 ACS on STN
 IN Borazine, 1,3,5-tritoyl-2,4,6-trivinyl- (6CI)
 MF C27 H30 B3 N3
 CI IDS

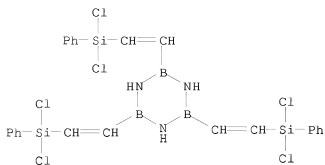


3 (D1-Me)



L3 41 ANSWERS REGISTRY COPYRIGHT 2010 ACS on STN
 IN Methanamine, polymer with 2,4,6-tris[2-(dichlorophenylsilyl)ethenyl]borazine (9CI)
 MF (C24 H24 B3 Cl6 N3 Si3 . C H5 N)x
 CI PMS

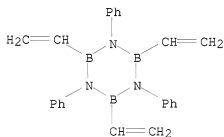
CM 1



CM 2

H₃C--NH₂

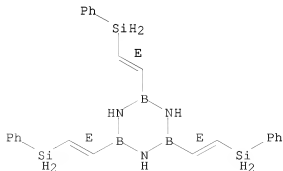
L3 41 ANSWERS REGISTRY COPYRIGHT 2010 ACS on STN
 IN Borazine, 2,4,6-triethenyl-1,3,5-triphenyl-
 MF C24 H24 B3 N3



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L3 41 ANSWERS REGISTRY COPYRIGHT 2010 ACS on STN
 IN Borazine, 2,4,6-tris[(1E)-2-(phenylsilyl)ethenyl]-
 MF C24 H30 B3 N3 Si3

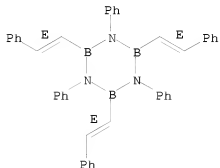
Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

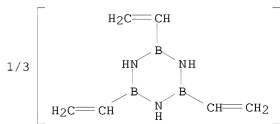
L3 41 ANSWERS REGISTRY COPYRIGHT 2010 ACS on STN
 IN Borazine, 1,3,5-triphenyl-2,4,6-tristyryl-, cis- (8CI)
 MF C42 H36 B3 N3

Double bond geometry as shown.

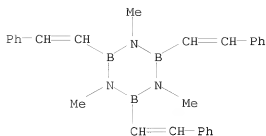


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L3 41 ANSWERS REGISTRY COPYRIGHT 2010 ACS on STN
 IN Borazine, 2,4,6-tris[(trimethoxysilyl)ethenyl]- (9CI)
 MF C15 H36 B3 N3 O9 Si3
 CI IDS



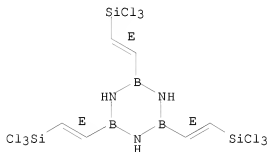
L3 41 ANSWERS REGISTRY COPYRIGHT 2010 ACS on STN
 IN Borazine, 1,3,5-trimethyl-2,4,6-tris(2-phenylethenyl)-
 MF C27 H30 B3 N3



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L3 41 ANSWERS REGISTRY COPYRIGHT 2010 ACS on STN
 IN Borazine, 2,4,6-tris[(1E)-2-(trichlorosilyl)ethenyl]-
 MF C6 H9 B3 Cl9 N3 Si3
 CI COM

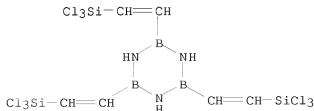
Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L3 41 ANSWERS REGISTRY COPYRIGHT 2010 ACS on STN
 IN Methanediimine, polymer with 2,4,6-tris[2-(trichlorosilyl)ethenyl]borazine
 (9CI)
 MF (C6 H9 B3 Cl9 N3 Si3 . C H2 N2)x
 CI PMS

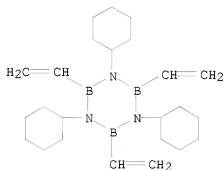
CM 1



CM 2

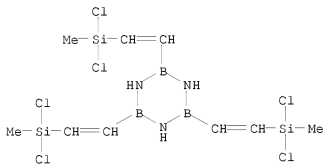


L3 41 ANSWERS REGISTRY COPYRIGHT 2010 ACS on STN
 IN Borazine, 1,3,5-tricyclohexyl-2,4,6-triethenyl-
 MF C24 H42 B3 N3



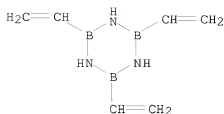
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L3 41 ANSWERS REGISTRY COPYRIGHT 2010 ACS on STN
 IN Borazine, 2,4,6-tris[2-(dichloromethylsilyl)ethenyl]-
 MF C9 H18 B3 Cl6 N3 Si3
 CI COM



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

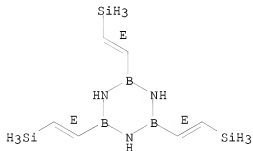
L3 41 ANSWERS REGISTRY COPYRIGHT 2010 ACS on STN
 IN Borazine, 2,4,6-triethenyl-
 MF C6 H12 B3 N3
 CI COM



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

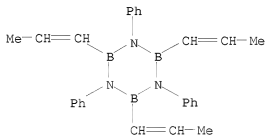
L3 41 ANSWERS REGISTRY COPYRIGHT 2010 ACS on STN
 IN Borazine, 2,4,6-tris[(1E)-2-silylethenyl]-
 MF C6 H18 B3 N3 Si3

Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L3 41 ANSWERS REGISTRY COPYRIGHT 2010 ACS on STN
 IN Borazine, 1,3,5-triphenyl-2,4,6-tri-1-propen-1-yl-
 MF C27 H30 B3 N3



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

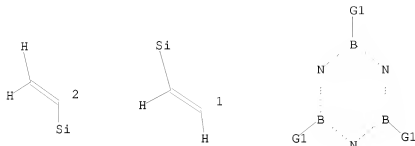
HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):0

=>

Uploading C:\Program Files\Stnexp\Queries\10544211-Ggroup.str

L4 STRUCTURE UPLOADED


```
=> d l4
L4 HAS NO ANSWERS
L4 STR
```



G1 [01],[02]

Structure attributes must be viewed using STN Express query preparation.

```
=> s l4 full sss sub=13
FULL SUBSET SEARCH INITIATED 14:21:53 FILE 'REGISTRY'
FULL SUBSET SCREEN SEARCH COMPLETED - 17 TO ITERATE

100.0% PROCESSED 17 ITERATIONS 17 ANSWERS
SEARCH TIME: 00.00.01
```

L5 17 SEA SUB=L3 SSS FUL L4

```
=> file caplus
COST IN U.S. DOLLARS SINCE FILE TOTAL
ENTRY SESSION
FULL ESTIMATED COST 240.96 241.18
```

FILE 'CAPLUS' ENTERED AT 14:22:00 ON 23 MAR 2010
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 COPYRIGHT (C) 2010 AMERICAN CHEMICAL SOCIETY (ACS)

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FILE COVERS 1907 - 23 Mar 2010 VOL 152 ISS 13
 FILE LAST UPDATED: 22 Mar 2010 (20100322/ED)
 REVISED CLASS FIELDS (/NCL) LAST RELOADED: Dec 2009
 USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Dec 2009

CAPLUS now includes complete International Patent Classification (IPC) reclassification data for the first quarter of 2010.

CAS Information Use Policies apply and are available at:

<http://www.cas.org/legal/infopolicy.html>

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s 15

L6 6 L5

=> s 16 and ceramic

373912 CERAMIC

L7 4 L6 AND CERAMIC

=> d 17 ibib abs hitstr 1-

YOU HAVE REQUESTED DATA FROM 4 ANSWERS - CONTINUE? Y/(N):y

L7 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2008:16645 CAPLUS

DOCUMENT NUMBER: 148:361201

TITLE: New approaches and characterization methods of

functional silicon-based non-oxidic ceramics

Haberecht, J.; Krumeich, F.; Hametner, K.; Gunther, D.; Nesper, R.

CORPORATE SOURCE: ETH Zurich, Zurich, CH-8093, Switz.

SOURCE: Organosilicon Chemistry VI: From Molecules to Materials, [European Silicon Days], 2nd, Munich, Germany, Sept. 11-12, 2003 (2005), Meeting Date 2003, Volume 2, 981-986. Editor(s): Auner, Norbert; Weis, Johann. Wiley-VCH Verlag GmbH & Co. KGaA: Weinheim, Germany.

CODEN: 69KGTG; ISBN: 978-3-527-31214-6

DOCUMENT TYPE: Conference

LANGUAGE: English

AB Si-B-N-C materials derived from different silyl-functionalized ethynylborazines were investigated. Pt-catalyzed hydrosilylation of B,B',B''-triethynyl-borazine with HSiCl₃ leads to B-tris(trichlorosilylvinyl)borazine (2) in quant. yield with a selectivity of 80% β -substituted product. Subsequently, hydrogenation of the trichlorosilyl groups of 2 leads to B-tris(silylvinyl)borazine 4. Starting from 4 or polymer 3P, a highly durable Si-B-N-C ceramic is obtained after pyrolysis under inert atmospheric. The composition of the ceramic material corresponds exactly to the backbone of the precursor mols. 2, 4, and SiBNC2. From this synthetic route, very compact materials are formed. The ceramic yield of approx. 94% (from 1) represents a new class via this synthetic route. As a new method, Laser ablation-ICP-MS was used for the characterization of the materials. The results demonstrate the high potential of this direct solid sampling technique for the characterization of such samples.

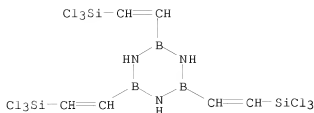
IT 852394-78-6P 1013036-44-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

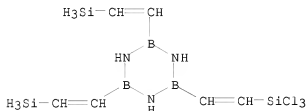
(new approaches and characterization methods of functional silicon-based non-oxidic ceramics)

RN 852394-78-6 CAPLUS

CN Borazine, 2,4,6-tris[2-(trichlorosilyl)ethenyl]- (CA INDEX NAME)



RN 1013036-44-6 CAPLUS
 CN Borazine, 2,4,6-tris(2-silylethenyl)- (CA INDEX NAME)



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2005:304935 CAPLUS

DOCUMENT NUMBER: 143:11736

TITLE: A Construction Kit for Si-B-C-N Ceramic

Materials Based on Borazine Precursors

AUTHOR(S): Haberecht, Joerg; Nesper, Reinhard; Gruetzmacher, Hansjoerg

CORPORATE SOURCE: Laboratory of Inorganic Chemistry, ETH Zuerich, Zurich, CH-8093, Switz.

SOURCE: Chemistry of Materials (2005), 17(9), 2340-2347

CODEN: CMATEX; ISSN: 0897-4756

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Starting from B,B',B''-triethynylborazine (1), an easy construction kit for highly durable Si-B-C-N ceramic materials is presented. Hydrosilylation of 1 with HSiRCl₂ (R = Cl, Me, Ph) using Pt/C as catalyst results in 3 novel precursor mols. Subsequent linking reactions with MeNH₂ or hydrogenation with LiAlH₄ leads to 3 novel preceramic precursors. All compds. and polymers have been characterized by NMR and IR spectroscopy and mass spectrometry. The thermal conversion of the 3 novel preceramic precursors results in various Si-B-C-N ceramics, with tunable Si, C, and N content. Insights into the mechanism of the pyrolysis have been obtained by thermal anal. as well as IR spectroscopy. The chemical composition of the materials is controlled by the reaction pathway as well as by the backbone of the resp. precursor mols.

IT 635685-17-5P 852394-71-9P 852394-72-0P

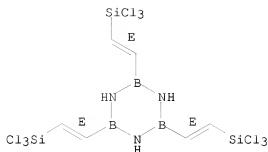
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)

(intermediate; preparation and properties of borazine preceramic precursors and their pyrolytic conversion to Si-B-C-N ceramic materials)

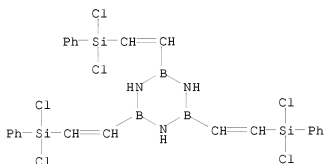
RN 635685-17-5 CAPLUS

CN Borazine, 2,4,6-tris[(1E)-2-(trichlorosilyl)ethenyl]- (CA INDEX NAME)

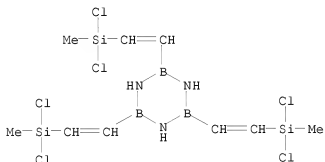
Double bond geometry as shown.



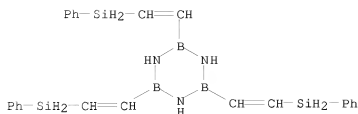
RN 852394-71-9 CAPLUS
 CN Borazine, 2,4,6-tris[2-(dichlorophenylsilyl)ethenyl]- (CA INDEX NAME)



RN 852394-72-0 CAPLUS
 CN Borazine, 2,4,6-tris[2-(dichloromethylsilyl)ethenyl]- (CA INDEX NAME)



IT 852394-74-2P
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process) (intermediate; preparation and properties of borazine preceramic precursors and their pyrolytic conversion to Si-B-C-N ceramic materials)
 RN 852394-74-2 CAPLUS
 CN Borazine, 2,4,6-tris[2-(phenylsilyl)ethenyl]- (CA INDEX NAME)

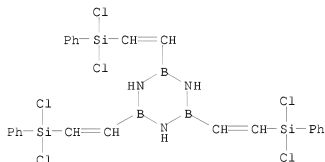


IT 852394-75-3P 852394-76-4P 852394-79-7P
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process) (preceramic precursor; preparation and properties of borazine preceramic precursors and their pyrolytic conversion to Si-B-C-N ceramic materials)
 RN 852394-75-3 CAPLUS
 CN Methanamine, polymer with 2,4,6-tris[2-(dichlorophenyl)silyl]ethenyl]borazine (9CI) (CA INDEX NAME)

CM 1

CRN 852394-71-9

CMF C24 H24 B3 Cl6 N3 Si3



CM 2

CRN 74-89-5

CMF C H5 N

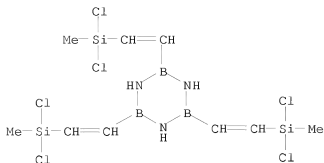
H₃C-NH₂

RN 852394-76-4 CAPLUS
 CN Methanamine, polymer with 2,4,6-tris[2-(dichloromethylsilyl)ethenyl]borazine (9CI) (CA INDEX NAME)

CM 1

CRN 852394-72-0

CMF C9 H18 B3 Cl6 N3 Si3



CM 2

CRN 74-89-5

CMF C H5 N

H₃C-NH₂

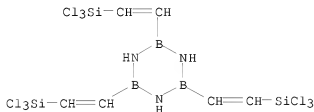
RN 852394-79-7 CAPLUS

CN Methanediimine, polymer with 2,4,6-tris[2-(trichlorosilyl)ethenyl]borazine
(9CI) (CA INDEX NAME)

CM 1

CRN 852394-78-6

CMF C6 H9 B3 Cl9 N3 Si3



CM 2

CRN 151-51-9

CMF C H2 N2

HN=C=NH

OS.CITING REF COUNT: 16 THERE ARE 16 CAPLUS RECORDS THAT CITE THIS
RECORD (16 CITINGS)
REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2004:675701 CAPLUS

DOCUMENT NUMBER: 141:178208

TITLE: Method for production of a B/N/C/Si ceramic
from a borazine precursor for making heating

INVENTOR(S): Nesper, Reinhard; Haberecht, Joerg; Gruetzmacher, Hansjoerg
 PATENT ASSIGNEE(S): Eidgenoessische Technische Hochschule Zuerich, Switz.
 SOURCE: PCT Int. Appl., 24 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004069768	A1	20040819	WO 2004-CH52	20040202
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
EP 1590310	A1	20051102	EP 2004-707180	20040202
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			
US 20060293164	A1	20061228	US 2005-544211	20050802
PRIORITY APPLN. INFO.:			CH 2003-149	A 20030203
			WO 2004-CH52	W 20040202

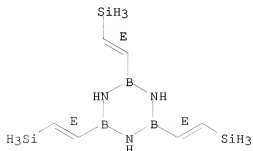
AB B-tris(silylvinyl)borazine is pyrolyzed as a borazine precursor for the production of a B/N/C/Si ceramic. A high-temperature ceramic is obtained by a further pyrolysis at higher temps. after a pre-pyrolysis, which is of high purity and essentially free of pores. The ceramic furthermore contains essentially no oxygen and is particularly suitable as a coating material and for the production of heating elements.

IT 664312-04-3P 736156-98-2P 736156-99-3P
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
 (borazine precursor; method for production of a b/n/c/si ceramic from a borazine precursor, ceramics made by said method and use of ceramic made by said method)

RN 664312-04-3 CAPLUS

CN Borazine, 2,4,6-tris[(1E)-2-silylethenyl]- (CA INDEX NAME)

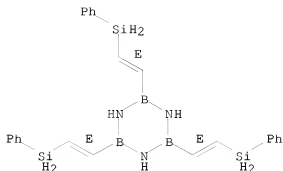
Double bond geometry as shown.



RN 736156-98-2 CAPLUS

CN Borazine, 2,4,6-tris[(1E)-2-(phenylsilyl)ethenyl]- (CA INDEX NAME)

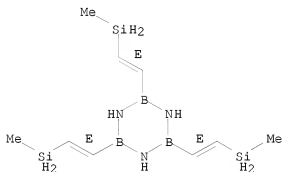
Double bond geometry as shown.



RN 736156-99-3 CAPLUS

CN Borazine, 2,4,6-tris[(1E)-2-(methylsilyl)ethenyl]- (CA INDEX NAME)

Double bond geometry as shown.



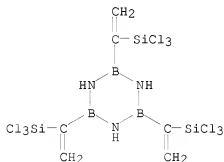
IT 736156-97-1P

RL: BYP (Byproduct); PREP (Preparation)

(method for production of a b/n/c/si ceramic from a borazine precursor, ceramics made by said method and use of ceramic made by said method)

RN 736156-97-1 CAPLUS

CN Borazine, 2,4,6-tris[1-(trichlorosilyl)ethenyl]- (CA INDEX NAME)



IT 635685-17-5P

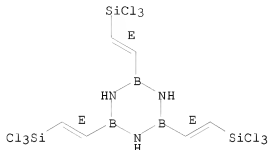
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)

(method for production of a b/n/c/si ceramic from a borazine precursor, ceramics made by said method and use of ceramic made by said method)

RN 635685-17-5 CAPLUS

CN Borazine, 2,4,6-tris[(1E)-2-(trichlorosilyl)ethenyl]- (CA INDEX NAME)

Double bond geometry as shown.



OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD
(2 CITINGS)
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2004:36188 CAPLUS

DOCUMENT NUMBER: 140:221686

TITLE: High-Yield Molecular Borazine Precursors for Si-B-N-C
Ceramics

AUTHOR(S): Haberecht, Joerg; Krumeich, Frank; Gruetzmacher,
Hansjoerg; Nesper, Reinhard

CORPORATE SOURCE: Laboratory of Inorganic Chemistry, ETH Zurich, Zurich,
CH-8093, Switz.

SOURCE: Chemistry of Materials (2004), 16(3), 418-423

CODEN: CMATEX; ISSN: 0897-4756

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The synthesis of Si-B-N-C ceramic materials can be accomplished via two different routes using (E,E,E)-B-tris(trichlorosilylvinyl)borazine (2) as starting material. This silyl-functionalized ethynylborazine is obtained by Pt-catalyzed hydrosilylation of B, B', B''-tri-ethynylborazine (1) with HSiCl₃ in quant. yield with a selectivity of 80% β -substituted product. Ammonolysis of 2 with methylamine leads to the soluble silazane polymer P3 which contains intact borazine rings connected by -CH:CH-Si-NMe linkages. In a second approach, the trichlorosilyl groups of 2 are hydrogenated to yield the B-tris(hydrosilylvinyl)borazine (4). With polymer P3 or 4, a highly durable Si-B-N-C ceramic is obtained after pyrolysis under inert atmospheric. The composition SiBN₁+xC₂ of the ceramic material corresponds exactly to the backbone of the precursor mols. 2 or 4, and very compact materials are obtained in each case. The ceramic yield of .apprx.94% starting from the silane precursor 4 sets a new standard for this type of ceramics using the pyrolysis of a single site mol. precursor. Conductivity measurements show a semiconductor behavior of the ceramic at .apprx.10² (Ω m)⁻¹ at room temperature. The composition of the ceramic was characterized by laser-ablation ICP-MS, which was used for that purpose for the first time. The very satisfying results demonstrate the high potential of this direct solid sampling technique.

IT 664312-04-3

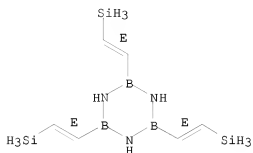
RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); FORM (Formation, nonpreparative); PROC (Process)
(high-yield synthesis of Si-B-N-C ceramic materials from mol.

borazine precursors)

RN 664312-04-3 CAPLUS

CN Borazine, 2,4,6-tris[(1E)-2-silylethenyl]- (CA INDEX NAME)

Double bond geometry as shown.



IT 635685-17-5

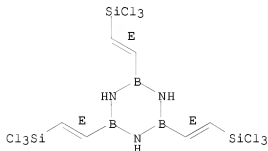
RL: CP5 (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)

(precursor; high-yield synthesis of Si-B-N-C ceramic materials from mol. borazine precursors)

RN 635685-17-5 CAPLUS

CN Borazine, 2,4,6-tris[(1E)-2-(trichlorosilyl)ethenyl]- (CA INDEX NAME)

Double bond geometry as shown.



OS.CITING REF COUNT: 26

THERE ARE 26 CAPLUS RECORDS THAT CITE THIS RECORD (27 CITINGS)

REFERENCE COUNT: 52

THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s 17 not 16

L8 0 L7 NOT L6

=> s 16 not 17

L9 2 L6 NOT L7

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YOU HAVE REQUESTED DATA FROM 2 ANSWERS - CONTINUE? Y/(N):y

L9 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2010 ACS on STN

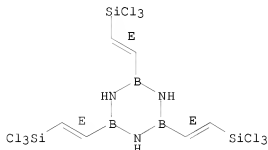
ACCESSION NUMBER: 2008:19348 CAPLUS

DOCUMENT NUMBER: 150:214505

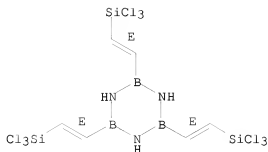
TITLE: Hydrosilylation of ethynylborazines and their use for the formation of a highly functionalized silica gel

AUTHOR(S): Haberecht, J.; Ruegger, H.; Nesper, R.; Grutzmacher,

H.
 CORPORATE SOURCE: ETH Honggerberg-HCI H131, ETH Zurich, Zurich, CH-8093, Switz.
 SOURCE: Organosilicon Chemistry VI: From Molecules to Materials, [European Silicon Days], 2nd, Munich, Germany, Sept. 11-12, 2003 (2005), Meeting Date 2003, Volume 1, 142-147. Editor(s): Auner, Norbert; Weis, Johann. Wiley-VCH Verlag GmbH & Co. KGaA: Weinheim, Germany.
 CODEN: 69KGTM; ISBN: 978-3-527-31214-6
 DOCUMENT TYPE: Conference
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 150:214505
 AB Triethynylborazine can be easily functionalized by a heterogeneously catalyzed hydrosilylation reaction to give mixts. of α - and β -tri(silylvinyl) borazines. The reaction with trichlorosilane is particularly useful, as one isomer, the β -tris-(trichlorosilylvinyl)borazine, is formed preferentially (.apprx.80% yield). The resulting tri(silylvinyl)borazines are suitable precursors for the formation of silica gels which are highly functionalized. Especially, the trichlorosilyl derivative, where the Si-Cl bonds are more rapidly hydrolyzed than the B3N3 ring, allows the preparation of a silica gel with intact borazine and vinyl moieties. BET measurements show that this material has a sp. surface area of approx. 315 m²/g.
 IT 635685-17-5P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (platinum catalyzed hydrosilylation of ethynylborazines and their use for formation of highly functionalized silica gel)
 RN 635685-17-5 CAPLUS
 CN Borazine, 2,4,6-tris[(1E)-2-(trichlorosilyl)ethenyl]- (CA INDEX NAME)
 Double bond geometry as shown.



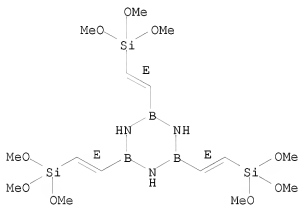
IT 635685-17-5DP, Silica supported 635685-19-7P
 635685-20-0P 635685-21-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (platinum catalyzed hydrosilylation of ethynylborazines and their use for formation of highly functionalized silica gel)
 RN 635685-17-5 CAPLUS
 CN Borazine, 2,4,6-tris[(1E)-2-(trichlorosilyl)ethenyl]- (CA INDEX NAME)
 Double bond geometry as shown.



RN 635685-19-7 CAPLUS

CN Borazine, 2,4,6-tris[(1E)-2-(trimethoxysilyl)ethenyl]- (CA INDEX NAME)

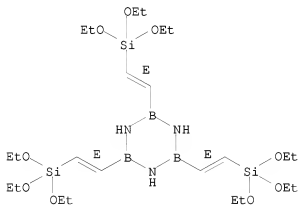
Double bond geometry as shown.



RN 635685-20-0 CAPLUS

CN Borazine, 2,4,6-tris[(1E)-2-(triethoxysilyl)ethenyl]- (CA INDEX NAME)

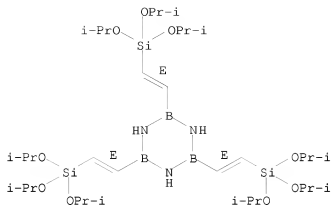
Double bond geometry as shown.



RN 635685-21-1 CAPLUS

CN Borazine, 2,4,6-tris[(1E)-2-[tris(1-methylethoxy)silyl]ethenyl]- (CA INDEX NAME)

Double bond geometry as shown.



REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2003:415725 CAPLUS

DOCUMENT NUMBER: 140:42301

TITLE: Functionalized borazines as precursors for new silica gels

AUTHOR(S): Haberecht, Joerg; Krummland, Anja; Breher, Frank; Gebhardt, Bjoern; Rueegger, Heinz; Nesper, Reinhard; Gruetzmacher, Hansjoerg

CORPORATE SOURCE: Department of Chemistry, ETH-Hoenggerberg, Zurich, CH-8093, Switz.

SOURCE: Dalton Transactions (2003), (11), 2126-2132

CODEN: DTARAF; ISSN: 1477-9226

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 140:42301

AB Trialkynylborazines 2,4,6-(RC.tplbond.C)3B3H3N3 (4a,b, R = H, SiMe3), were prepared from (iPr2N)2BC.tplbond.CR and ammonium chloride. Borazine 4a was subsequently hydrosilylated with trichlorosilane and trialkoxysilanes using platinum on charcoal as heterogeneous catalyst to give (E)- β -silylalkenylborazines, 2,4,6-(SiX3CH:CH)3B3H3N3 isomers as major products (5-8, X = Cl, OMe, OEt, OiPr). The chloro-derivative 5 was isolated in pure form and hydrolyzed into a highly functionalized silica gel by a sol-gel process. This gel has a sp. surface of about 315 m² g⁻¹ and is the first gel containing intact borazine rings. The structures of (iPr2N)2B-C.tplbond.CH, 4a,b and 5 were determined by x-ray crystallog.

IT 635685-17-5P

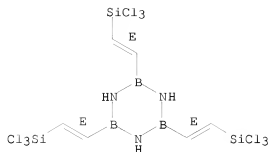
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(crystal structure, hydrolysis; preparation and hydrosilylation of trialkynylborazines to give β -silylethenyl borazine silica gel precursor)

RN 635685-17-5 CAPLUS

CN Borazine, 2,4,6-tris[(1E)-2-(trichlorosilyl)ethenyl]- (CA INDEX NAME)

Double bond geometry as shown.



IT 635685-18-6P

RL: SPN (Synthetic preparation); PREP (Preparation)
(polymeric gel; preparation and hydrosilylation of trialkynylborazines to
give β -silylethenyl borazine silica gel precursor)

RN 635685-18-6 CAPLUS

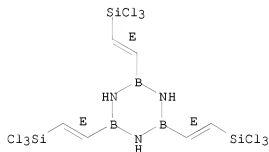
CN Borazine, 2,4,6-tris[(1E)-2-(trichlorosilyl)ethenyl]-, homopolymer,
hydrolytic (9CI) (CA INDEX NAME)

CM 1

CRN 635685-17-5

CMF C6 H9 B3 Cl9 N3 Si3

Double bond geometry as shown.



CM 2

CRN 7732-18-5

CMF H2 O

H₂O

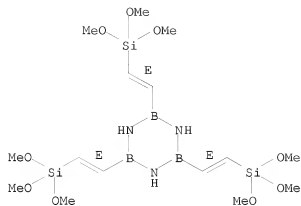
IT 635685-19-7 635685-20-0 635685-21-1

RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
(preparation and hydrosilylation of trialkynylborazines to give
 β -silylethenyl borazine derivs.)

RN 635685-19-7 CAPLUS

CN Borazine, 2,4,6-tris[(1E)-2-(trimethoxysilyl)ethenyl]- (CA INDEX NAME)

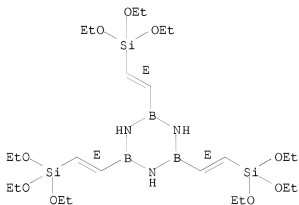
Double bond geometry as shown.



RN 635685-20-0 CAPLUS

CN Borazine, 2,4,6-tris[(1E)-2-(triethoxysilyl)ethenyl]- (CA INDEX NAME)

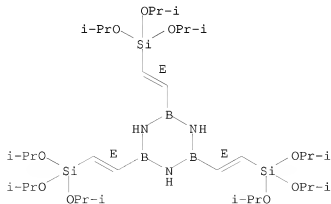
Double bond geometry as shown.



RN 635685-21-1 CAPLUS

CN Borazine, 2,4,6-tris[(1E)-2-[tris(1-methylethoxy)silyl]ethenyl]- (CA INDEX NAME)

Double bond geometry as shown.



OS.CITING REF COUNT: 8 THERE ARE 8 CAPLUS RECORDS THAT CITE THIS RECORD (8 CITINGS)

REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L12      0 L7 NOT L10
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